

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An ion beam irradiation device comprising:
a holder supporting a substrate;
an ion beam path; and
an ion beam source that is a predetermined distance from the substrate and that irradiates the substrate with an ion beam along the ion beam path, wherein the ion beam is discharged from the ion beam source with an incidence angle with respect to the ion beam source that is greater than about 0° and the emitting surface of the ion beam source is inclined to be substantially parallel with the substrate and wherein irradiated ions follow paths that are substantially parallel and straight.
2. (Original) The ion beam irradiation device according to claim 1, wherein the ion beam source comprises:
an ionizer that ionizes injected gas into ions and electrons;
a discharger that discharges the ions as the ion beam; and
an accelerator that accelerates the discharged ion beam towards the substrate.
3. (Original) The ion beam irradiation device according to claim 2, wherein the accelerator is substantially parallel with the substrate.
4. (Original) The ion beam irradiation device according to claim 2, wherein the discharger is substantially parallel with the substrate.
5. (Original) The ion beam irradiation device according to claim 2, wherein the ionizer is substantially parallel with the substrate.
6. (Original) The ion beam irradiation device according to claim 2, wherein the discharger and the accelerator are substantially parallel with the substrate and the ionizer inclined at an angle substantially different from the accelerator and discharger.

7. (Original) The ion beam irradiation device according to claim 1, wherein the substrate comprises an alignment layer formed on a surface thereof.

8. (Original) The ion beam irradiation device according to claim 1, wherein the ion beam is formed from an inert gas selected from the group consisting of Ar, Kr, and Xe.

Claims 9-10 (Canceled).

11. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-50°.

12. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-60°.

13. (Previously Presented) The ion beam irradiation device according to claim 1, wherein the ion beam irradiates the substrate with an incidence angle of about 10°-20°.

14. (Currently Amended) A method of irradiating a substrate with an ion beam comprising:

supporting a substrate with an alignment layer at a first angle;

producing ion beams to simultaneously irradiate the whole substrate with ions, wherein the ion beams strike the substrate with substantially the same incidence angle and energy across the substrate, and wherein the ion beams all travel substantially the same distance and the incidence angle is greater than about 0° and wherein irradiated ions follow paths that are substantially parallel and straight.

15. (Original) The method according to claim 14, wherein producing ion beams comprises:

ionizing an injected gas into ions and electrons;

discharging the ions as the ion beams; and

accelerating the discharged ion beams towards the substrate.

16. (Original) The method according to claim 14, wherein the injected gas is selected from the group of Ar, Kr, and Xe.

17. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-50°.

18. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 40°-60°.

19. (Previously Presented) The method according to claim 14, wherein the ion beam irradiates the substrate with an incidence angle of about 10°-20°.